

## Preliminary programme of the ISSI Workshop

### Monday, 30 November 2009:

- **9:00-9:20** *Welcome and introduction: M. Blanc*
- **9:20-10:00** *Objectives of the workshop, discussion on the book K. Szego, M. Blanc*
- **10:00-12:00** **UPSTREAM of Venus, Mars and Saturn**  
session organiser: Tielong Zhang
  - *10:00 – 10:25 Nicolas Andre:*  
Characterization of Interplanetary Magnetic field Configuration at Saturn and Venus during the Cassini and Venus missions and Multi-point heliospheric observations and use of Stereo/ACE/Wind as planetary virtual solar wind monitors
  - *10:25-10:50 Caitriona Jackman:* The solar wind upstream of Saturn and its impact on magnetospheric dynamics 15 - 20 min talk + 15 - 10 min discussion;
  - *COFFEE*
  - *11:10 – 11: 35 Christian Mazelle:* Proton Cyclotron waves at Mars Revisited
  - *11:35 – 12:00 Magda Delva:* Upstream Ion Cyclotron Waves at Venus
  - *12:00-12:20 Discussions*
- **13:00-17:00** **Comparison of the ionospheres of Venus, Mars, and Titan** session organiser: Andrew Coates & Jan-Erik Wahlund
  - *13:20-13:40 Andrew Coates* Comparison of the ionosphere of Venus, Mars, and Titan
  - *13:40-14:05 Frank Crary* Ionospheric ions at Titan – CAPS and INMS
  - *14:05-14:30 Karen Ågren* On the ionospheric structure of Titan
  - *14:30-14:55 Annie Wellbrock* Negative ions at Titan? an update
  - *14:55-15:20 Jan-Erik Wahlund* On the amount of heavy molecular ions in Titan's ionosphere
  - *COFFEE*
  - *15:40-16:05 Hermann Opgenoorth* Ionospheric conductivities at planets and planet-like bodies with induced magnetospheres
  - *16:05-16:30 Karen Ågren* Ionospheric current systems at Titan
  - *16:30-16:55 F. Duru* Steep, Transient Density Gradients in the Martian ionosphere similar to the ionopause at Venus (, **presented by** Jan-Erik)
  - *16:55 – Discussions*
  - *18:00 – Welcome Drink offered by ISSI*

**Tuesday, 1 December 2009:**

➤ **9:00-16:00 (with a coffee break and lunch break) Dynamics of the boundary layers and plasma escape**

session organisers: Cesar Bertucci & Jan-Erik Wahlund

- 9:00-9:25 *Cesar Bertucci* Dynamics of boundary layers
- 9:25-9:50 *M. Fraenz* Boundary layers at Mars and Venus
- 9:50-10:15 *Christian Mazelle* The MPB/IMB at Mars, and Comets
- 10:15-10:40 *Niklas Edberg* Factors controlling the location of plasma boundaries at Mars: MEX/MGS observations
- 10:40-11:05 *Edik Dubinin* Plasma acceleration mechanisms at the Martian induced magnetospheric boundary
- *COFFEE*
- 11:25-11:50 *Tielong Zhang* The Induced magnetosphere of Venus
- 11:50-12:15 *Rickard Lundin* Massloading and mass-loss from Mars and Venus
- 12:15-12:35 *Nikolas Andre* Identification of extreme events at Venus and Mars
- *LUNCH*
- 13:35-14:00 *Cesar Bertucci* The magnetic structure and variability of the induced magnetosphere of Titan
- 14:00-14:25 *Jun Cui* The formation and escape of ions in Titan's upper atmosphere
- 14:25-14:50 *Jan-Erik Wahlund* Exo-ionosphere and cold plasma-boundaries around Titan
- 14:50-15:15 *Discussion*
- *COFFEE*

➤ **15:35-18:00 Exosphere and ENA**

session organiser: Futaana Yoshifumi

- 15:35-16:00 *Jean-Yves Chaufray* Recent observations of Martian and Venusian neutral exospheres
- 16:00-16:25 *Alessandro Mura* Charge exchange and atmospheric sputtering: production of energetic neutral atoms in planetary environments
- 16:25-16:50 *Futaana Yoshifumi* ENA environment in the vicinity of Mars and Venus
- 16:50-17:15 *Herbert Lichtenegger* On the corona of Venus and Mars
- 17:15-17:40 *H. Todd Smith* Energetic ion penetration in Titan's atmosphere
- 17:40- *Discussion*

**Wednesday, 2 December 2009, till 2 p.m.**

*(the afternoon is free, ISSI invites the participants to a joint dinner)*

➤ **9:00-14:00 UPSTREAM of Titan**

session organiser: Chris Arridge

- 09:00 – 09:20 *Abi Rymer* “Discrete classification and electron energy spectra of Titan’s varied magnetospheric environment and the evolution of bi-modal electron distributions near Titan.”
- 09:20 – 09:40 *Zoltan Nemeth* “Ion distributions of different Kronian plasma regions”
- 09:40 – 10:00 *Jan-Erik Wahlund* “The electron density of Saturn's magnetosphere”
- 10:00 – 10:20 *Discussion*
- 10:20 – 10:40 *Zsofia Bebesi* “Comparative analysis of Titan encounters in the dayside magnetosphere of Saturn using CAPS-IMS and MIMI-LEMMS data”
- 10:40 – 11:00 *Nick Sergis* “Energetic particles near Titan’s orbit: A statistical approach”
- 11:00 – 11: 20 *COFFEE*
- 11:20 – 11:40 *Phillipe Garnier* “Energetic particles in the Titan environment : Cassini/MIMI results” (15 minutes)
- 11:40 – 12:10 *Chris Arridge* “Magnetodisc and solar wind influences on Titan's magnetospheric background”
- 12:10 – 12:30 *Nic André* ”Titanian possible influence on magnetospheric structure and dynamics”
- 12:30 – 12: 50 *Karoly Szego* Current sheet properties from ion moments at Titan`s orbit
- 13:00 – 14:00 *Discussion*

➤ **14:00-15:00 Discussion on Europlanet networking over sandwiches**

➤ Session organiser: Ari-Matti Harri

➤ **Discussion on the BOOK**

➤ **19:00 TEAM DINNER** *(ISSI invites the participants to a joint dinner)*

**Thursday, 3 December 2009:**

➤ **9:00-10:15 Magnetotail**

Session organiser: Karoly Szego

- 9:00-9:25 *Oleg Vaisberg*
- 9:25-9:50 *Karoly Szego* Tail Dynamics

- 9:50-10:05 *N. André* Near planet neutral sheet structure and dynamics at Venus and (possible) comparison with Saturn, Earth, Mars and Jupiter
- 10:05-10:15 *Discussion*
- **10:15-18:00 (with coffee and lunch breaks) Modeling**  
session organiser: Esa Kallio *Detailed schedule will be announced later*
  - 1. A brief introduction [Esa Kallio]
  - 2. Detailed presentations about different modeling approaches (pros and cons):
    - 2.1 Plasma
      - Monte Carlo and test particle models [Alessandro Mura]
      - MHD model [Darci Snowden]
      - Hybrid model [Ronan Modolo]
    - 2.2 Neutrals, ENAs [Alessandro Mura]
  - 3. Specific presentations about the analyzed objects
    - Mars [Ronan Modolo]
    - Venus [Esa Kallio]
    - Titan modeling [Ronan Modolo/hybrid, Darci Snowden/MHD]
  - 4. Specific modeling oriented presentations such as about ENAs, exosphere, atmosphere, ionosphere etc.
    - Charge exchange and ENAs? [Alessandro Mura]
    - Lessons from SWIM modeling challenge [Esa Kallio]
    - H-populations near Mars [Esa Kallio]

**Friday, 4 December 2009, 9:00-13:45**

- **9:00 – 12:45 Reaching consensus: meeting summary, relation to comets**  
session organiser: Michel Blanc
  - 9:00-10:00 *Rickard Lundin* Venus and Mars
  - 10:00-10:45 *Discussion*
  - 10:45-11:00 *COFFEE*
  - 11:00-12:00 *Frank Cray* Titan
  - 12:00-12:45 *Discussion*
- **12:45-13:45 Discussion on the BOOK**